



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/727,622      | 12/05/2003  | Tadanobu Shibabuki   | Q78685              | 9136             |

23373 7590 03/20/2006  
SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

|          |
|----------|
| EXAMINER |
|----------|

JOERGER, KAITLIN S

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3653

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/727,622             | SHIBABUKI ET AL.    |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Kaitlin S. Joerger     | 3653                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 62215441.

The '441 patent teaches a sheet sucking/feeding device which sucks a sheet and separates the top sheet from a stack of sheets, the device comprises: a plurality of suction cups, 66a-66e, along a a transverse direction of a sheet; and a suction cup operation device which can displace at least one suction cup over a predetermined stroke in an axial direction, and displaces at least one suction cup to cause a sucked sheet to curve wavily along the transverse direction, see figure 4a-4d. The suction cup operation device comprises actuators connected to the respective suction cups, the suction cup operation device displaces the suction ups by simultaneously driving at least every other one of the actuators, wherein every other one comprises a group of actuators. The operation device further comprises a cam mechanism having cams, 54a-54e. The actuators are structured to include solenoids, 28 and 48, the actuators are connected to shafts of the suction cups via lift-up levers 60a-60e, and the actuators are disposed together to form a single unit. The device further includes springs, 12a-12e.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 14-17 rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62215441.

Although the '441 patent does not explicitly teach a method of sucking and feeding a sheet, it would have been obvious to perform the method steps of claims 14-17 when using the apparatus taught by the '441 patent in its usual and expected fashion as the JP '441 patent teaches a device for sucking/feeding a top sheet from a stack of sheets by raising the sheet up and causing the sheet to become wavy.

The '441 patent teaches individually reducing the pressure of the suction cup and it is an inherent feature of suction cups that when the pressure is reduced or increased the skirt of the suction cup will deform.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62215441 in view of Dachtler.

The '441 patent does not teach suction cups of different rigidity which are subjected to different level of pressure at different times, but Dachtler does teach this, see columns 4 and 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the highly-rigid and less-rigid suction cups and the pressure changer of Dachtler with the device of the '441 patent in order to ensure proper separation of the top most plate from the stack.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62215441 in view of Dachtler.

Although neither the '441 nor Dachtler explicitly teach a method of sucking and feeding a sheet, it would have been obvious to perform the method steps of claims 18-20 when using the apparatus taught by the combination of the '441 patent and Dachtler in its usual and expected fashion. The JP '441 patent teaches a sucking/feeding device for separating and feeding a top sheet from a stack of sheet by causing the sheet to become wavy. Dachtler teaches a sucking and feeding device with both highly rigid and less rigid suction cup portions used to ensure separation of the top sheet from the stack of sheets. It is obvious that the combination of these two references, as discussed fully in the paragraphs above, teach a sucking and feeding device that performs the method steps of claims 18-20.

### ***Response to Arguments***

Applicant's arguments, see page 8 of Amendment, filed 14 December 2005, with respect to claims 6-8 have been fully considered and are persuasive. The rejection of claims 6-8 under 35 U.S.C. §112, 2<sup>nd</sup> paragraph has been withdrawn.

Applicant's arguments filed 14 December 2005 have been fully considered but they are not persuasive.

Applicant argues that the suction cups are not displaced independently of the other and that there is not teaching that the sheet is raised up by a predetermined amount and then at least one of the suction cups is displaced. Applicant's attention is drawn JP-62215441, specifically figures 4(a) through 4(d). Figure 4(b) indicates that suction cup 66c raises the sheet by the

Art Unit: 3653

predetermined amount, where the predetermined amount is determined by the cam 54c. The figures clearly show that the suction cups, themselves, (66a-66e) are being displaced.

The applicant further argues that the reference does not teach that the feature of actuators connected independently to the respective suction cups. According the Webster's Collegiate Dictionary the term actuator is defined as a mechanical device for moving or controlling something. Figures 2 and 4(a) through 4(d) of the JP'441 reference clearly show that actuators 54(a) through 54(e) are independently connected to respective suction cups, there is one actuator for each suction cup. In addition, at the top of page 10, the applicant argues, with respect to claims 2 and 3, that the JP '441 patent does not teach that each suction cup is independently actuated for release, however, this feature is not claimed in the claims. The reference does teach independent actuators acting on each suction cup, as stated above.

The applicant further argues that all cams of the JP '441 reference engage at the same time, however, it is clear from the drawings that this is not true. The engagement surface, 58(a) through 58(e), do not engage and actuate the suction cups at the same time and therefore do not make the suction cups move at the same time.

The applicant further argues, with respect to claim 8, that the JP '441 patent does not teach individually reducing suction negative pressures of the suction cups. The figures show tubular member, 64(a) through 64(e) which are individual tube members that are connected to a vacuum source, as disclosed in the translated abstract and included with this office action for reference. The individual tube members individually connected to a vacuum source therefore individually reduce suction negative pressures of the suction cups.

With respect to the rejection of claims 6 and 7, the applicant argues that Dachtler does not teach suction holders of different rigidity, the examiner disagrees with this argument. The device of Dachtler includes to different suction holder, 5 and 7a, 7b. Suction holders 5 are more rigid than suction holders 7a, 7b, and therefore the reference teaches the claimed features. Claim 6 merely claims two types of suction holders, wherein the skirt portion of the first suction holder is greater than that of the second suction holder. This feature is clearly taught by Dachtler in columns 4 and 5.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaitlin S. Joerger whose telephone number is 571-272-6938. The examiner can normally be reached on Monday - Friday 9-5.

Art Unit: 3653

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ksj  
  
10 March 2006

  
**EILEEN D. LILLIS**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600